

IN THE CLAIMS

The pending unamended claims are reproduced below:

1. (PREVIOUSLY PRESENTED) A method of processing a video stream received by a computer, the method comprising:

receiving a video stream, wherein the video stream comprises multiple frames;

analyzing the video stream to identify scene changes between frames of the video stream;

and

updating one or more user or private data fields of one or more scene-change frames of the video stream to indicate that a scene change occurs in the scene-change frame and to indicate the scene change's type, in a manner transparent for encoded content within the frames.

2. (ORIGINAL) The method of claim 1, wherein the computer comprises an encoder.

3. (PREVIOUSLY PRESENTED) The method of claim 2, wherein the user or private data fields are updated within the encoder.

4. (CANCELED)

5. (CANCELED)

6. (PREVIOUSLY PRESENTED) The method of claim 1, wherein the scene change occurs when the content of a first frame of the video stream changes sufficiently in a second frame of the video stream such that the second frame triggers a new view relative to the first frame.

7. (PREVIOUSLY PRESENTED) The method of claim 1, wherein the scene change's type indicates that the scene change in the scene-change frame occurred due to one or more specific scene change attributes.

8. (PREVIOUSLY PRESENTED) The method of claim 7, wherein the scene change attributes identify that the scene change occurred due to a scan, tilt, zoom or cut.

9. (PREVIOUSLY PRESENTED) The method of claim 8, further comprising updating the user or private data fields of the scene-change frames with one or more additional data bits that represent an amount of change caused by the scene change.

10. (ORIGINAL) The method of claim 1, further comprising compressing the video stream to generate a video file.

11. (ORIGINAL) The method of claim 10, wherein a frame of the video file representing a scene change comprises a full frame

12. (ORIGINAL) The method of claim 10, wherein a frame of the video file representing a scene change comprises a delta frame.

13. (ORIGINAL) The method of claim 10, further comprising extracting one or more frames representing a scene change from the video file with an extraction tool, wherein the extraction tool selects frames representing scene changes by reading scene change data in the fields.

14. (ORIGINAL) The method of claim 13, wherein the extraction tool accesses the scene change data in the fields in real time.

15. (ORIGINAL) The method of claim 13, further comprising generating a storyboard with the extracted frames.

16-45. (CANCELED)

46. (PREVIOUSLY PRESENTED) The method of claim 1, further comprising updating the user or private data fields of the scene-change frames with a percentage field that indicates a percentage of scene change in the scene-change frames.

47. (PREVIOUSLY PRESENTED) The method of claim 1, further comprising updating the user or private data fields of the scene-change frames with a direction field for motion changes in the scene-change frames.

48. (PREVIOUSLY PRESENTED) The method of claim 1, further comprising updating the user or private data fields of the scene-change frames with an effects indicator that describes a transition effect in the scene-change frames.

49. (PREVIOUSLY PRESENTED) The method of claim 1, wherein the user or private data fields of the scene-change frames that indicate the scene change occurs in the scene-change frame are processed in order to provide an index of access points for displaying specific scenes or segments.

50. (PREVIOUSLY PRESENTED) An apparatus for processing a video stream, comprising:

a computer; and

one or more computer programs, performed by the computer, for receiving a video stream, wherein the video stream comprises multiple frames; analyzing the video stream to identify scene changes between frames of the video stream; and updating one or more user or private data fields of one or more scene-change frames of the video stream to indicate that a scene change occurs in the scene-change frame and to indicate the scene change's type, in a manner transparent for encoded content within the frames.

51. (PREVIOUSLY PRESENTED) The apparatus of claim 50, wherein the computer comprises an encoder.

52. (PREVIOUSLY PRESENTED) The apparatus of claim 51, wherein the user or private data fields are updated within the encoder.

53. (PREVIOUSLY PRESENTED) The apparatus of claim 50, wherein the scene change occurs when the content of a first frame of the video stream changes sufficiently in a second

frame of the video stream such that the second frame triggers a new view relative to the first frame.

54. (PREVIOUSLY PRESENTED) The apparatus of claim 50, wherein the scene change's type indicates that the scene change in the scene-change frame occurred due to one or more specific scene change attributes.

55. (PREVIOUSLY PRESENTED) The apparatus of claim 54, wherein the scene change attributes identify that the scene change occurred due to a scan, tilt, zoom or cut.

56. (PREVIOUSLY PRESENTED) The apparatus of claim 55, further comprising updating the user or private data fields of the scene-change frames with one or more additional data bits that represent an amount of change caused by the scene change.

57. (PREVIOUSLY PRESENTED) The apparatus of claim 50, further comprising compressing the video stream to generate a video file.

58. (PREVIOUSLY PRESENTED) The apparatus of claim 57, wherein a frame of the video file representing a scene change comprises a full frame.

59. (PREVIOUSLY PRESENTED) The apparatus of claim 57, wherein a frame of the video file representing a scene change comprises a delta frame.

60. (PREVIOUSLY PRESENTED) The apparatus of claim 57, further comprising extracting one of more frames representing a scene change from the video file with an extraction tool, wherein the extraction tool selects frames representing scene changes by reading scene change data in the fields.

61. (PREVIOUSLY PRESENTED) The apparatus of claim 60, wherein the extraction tool accesses the scene change data in the fields in real time.

62. (PREVIOUSLY PRESENTED) The apparatus of claim 60, further comprising generating a storyboard with the extracted frames.

63. (PREVIOUSLY PRESENTED) The apparatus of claim 50, further comprising updating the user or private data fields of the scene-change frames with a percentage field that indicates a percentage of scene change in the scene-change frames.

64. (PREVIOUSLY PRESENTED) The apparatus of claim 50, further comprising updating the user or private data fields of the scene-change frames with a direction field for motion changes in the scene-change frames.

65. (PREVIOUSLY PRESENTED) The apparatus of claim 50, further comprising updating the user or private data fields of the scene-change frames with an effects indicator that describes a transition effect in the scene-change frames.

66. (PREVIOUSLY PRESENTED) The apparatus of claim 50, wherein the user or private data fields of the scene-change frames that indicate the scene change occurs in the scene-change frame are processed in order to provide an index of access points for displaying specific scenes or segments.

67. (PREVIOUSLY PRESENTED) An article of manufacture comprising a computer program storage device readable by a computer for storing one or more instructions that, when executed by the computer, causes the computer to perform method steps for processing a video stream in the computer, the method comprising:

- receiving a video stream, wherein the video stream comprises multiple frames;
- analyzing the video stream to identify scene changes between frames of the video stream;
- and
- updating one or more user or private data fields of one or more scene-change frames of the video stream to indicate that a scene change occurs in the scene-change frame and to indicate the scene change's type, in a manner transparent for encoded content within the frames.

68. (PREVIOUSLY PRESENTED) The article of manufacture of claim 67, wherein the computer comprises an encoder.

69. (PREVIOUSLY PRESENTED) The article of manufacture of claim 67, wherein the user or private data fields are updated within the encoder.

70. (PREVIOUSLY PRESENTED) The article of manufacture of claim 67, wherein the scene change occurs when the content of a first frame of the video stream changes sufficiently in a second frame of the video stream such that the second frame triggers a new view relative to the first frame.

71. (PREVIOUSLY PRESENTED) The article of manufacture of claim 67, wherein the scene change's type indicates that the scene change in the scene-change frame occurred due to one or more specific scene change attributes.

72. (PREVIOUSLY PRESENTED) The article of manufacture of claim 71, wherein the scene change attributes identify that the scene change occurred due to a scan, tilt, zoom or cut.

73. (PREVIOUSLY PRESENTED) The article of manufacture of claim 72, further comprising updating the user or private data fields of the scene-change frames with one or more additional data bits that represent an amount change caused by the scene change.

74. (PREVIOUSLY PRESENTED) The article of manufacture of claim 67, further comprising compressing the video stream to generate a video file.

75. (PREVIOUSLY PRESENTED) The article of manufacture of claim 74, wherein a frame of the video file representing a scene change comprises a full frame.

76. (PREVIOUSLY PRESENTED) The article of manufacture of claim 74, wherein a frame of the video file representing a scene change comprises a delta frame.

77. (PREVIOUSLY PRESENTED) The article of manufacture of claim 74, further comprising extracting one or more frames representing a scene change from the video file with an extraction tool, wherein the extraction tool selects frames representing scene changes by reading scene change data in the fields.

78. (PREVIOUSLY PRESENTED) The article of manufacture of claim 77, wherein the extraction tool accesses the scene change data in the fields in real time.

79. (PREVIOUSLY PRESENTED) The article of manufacture of claim 77, further comprising generating a storyboard with the extracted frames.

80. (PREVIOUSLY PRESENTED) The article of manufacture of claim 67, further comprising updating the user or private data fields of the scene-change frames with a percentage field that indicates a percentage of scene change in the scene-change frames.

81. (PREVIOUSLY PRESENTED) The article of manufacture of claim 67, further comprising updating the user or private data fields of the scene-change frames with a direction field for motion changes in the scene-change frames.

82. (PREVIOUSLY PRESENTED) The article of manufacture of claim 67, further comprising updating the user or private data fields of the scene-change frames with an effects indicator that describes a transition effect in the scene-change frames.

83. (PREVIOUSLY PRESENTED) The article of manufacture of claim 67, wherein the user or private data fields of the scene-change frames that indicate the scene change occurs in the scene-change frame are processed in order to provide an index of access points for displaying specific scenes or segments.